



Cooper, Y. and Blake, Holly (2011) Systematic review of exercise interventions for children with Type 1 diabetes mellitus. In: UK Society for Behavioural Medicine, 7th Annual Scientific Meeting, 13-14 December 2011, Stirling, Scotland.

Access from the University of Nottingham repository:

<http://eprints.nottingham.ac.uk/39295/1/2011%20Cooper%20Blake%20T1DM%20UKSBM%20Stirling.pdf>

Copyright and reuse:

The Nottingham ePrints service makes this work by researchers of the University of Nottingham available open access under the following conditions.

This article is made available under the University of Nottingham End User licence and may be reused according to the conditions of the licence. For more details see: http://eprints.nottingham.ac.uk/end_user_agreement.pdf

A note on versions:

The version presented here may differ from the published version or from the version of record. If you wish to cite this item you are advised to consult the publisher's version. Please see the repository url above for details on accessing the published version and note that access may require a subscription.

For more information, please contact eprints@nottingham.ac.uk

Citation: COOPER, Y., BLAKE H. Systematic review of exercise interventions for children with Type 1 diabetes mellitus. In: Proceedings of the UK Society for Behavioural Medicine, 7th Annual Scientific Meeting, Stirling, 13-14 December 2011.

Poster: Systematic review of exercise interventions for children with Type 1 diabetes mellitus

COOPER Y., BLAKE H

Background: Exercise, in addition to insulin therapy and diet, plays an important role in the treatment of children with T1DM. The benefits of exercise include improved cardiovascular fitness, obesity control and blood lipid profile as well as better glycaemic and metabolic control. Exercise may lower the risk of cardiovascular disease, a major contributor to morbidity and mortality in this group.

Objectives: (i) examine the key features of exercise intervention programmes, (ii) evaluate their effectiveness, and (iii) comment on their strengths and weaknesses.

Methods: A systematic search of the literature was carried out. Studies included reported an exercise intervention study, had RCT or quasi- experimental design, and had a child T1DM population. Twelve studies were included in the analysis.

Results: Four categories of exercise interventions were identified: home-based aerobic exercise, non-home-based aerobic exercise, aerobic and weight training programmes and one-off exercise sessions. Results of each type of intervention varied and included improvements in blood glucose levels, daily insulin dose, glycaemic regulation, aerobic capacity, cardiorespiratory endurance, strength, fat mass, BMI and waist circumference.

Conclusions: Combined aerobic and resistance training programmes resulted in the most beneficial effects for children with T1DM and have additional benefits when compared to simple aerobic exercise alone.